

DESCRIPTION

The Altec Lansing Model 3124 12-inch low-frequency loudspeaker is part of Altec's new generation of woofers. Each loudspeaker in this line was engineered for a particular purpose. The 3124 is designed specifically for the reproduction of **low frequencies** with **minimum distortion** in a compact enclosure.

When used as an integral component of the 8124 Loudspeaker System (3-cubic foot vented enclosure), full capability of the 3124 is achieved. This system provides a 3 dB down frequency of 40 Hz with an optimum Thiele-Small alignment.

Power capacity for the 3124 is 250 watts when measured by the new AES standard specifications. The 3124 will handle 500 watts of program material when configured as the 8124 system, or mounted in another suitable enclosure.

As with all Altec professional series woofers, the 3124 is built with a structurally reinforced die-cast frame. The ferrite magnet structure coupled with an exceptionally high power voice coil provides low distortion even at very high sound pressure levels.

SPECIFICATIONS

Frame Diameter:	12"
*Power Rating:	500 watts program material 250 watts continuous pink noise band-limited
Frequency Response (Hz):	30-2000
Pressure Sensitivity (1 watt (E x I) with pink noise band-limited 100-1000 Hz):	91 dB at 4 feet 93 dB at 1 meter
**Maximum Sound Pressure (Full power (E²/Z) with pink noise band-limited 40-400 Hz):	113 dB at 4 feet 115 dB at 1 meter
Impedance:	8 ohms nominal
Recommended System:	8124 (3 ft ³) System F ₃ : 40 Hz
Maximum Excursion Before Damage (Peak to Peak):	1.44 in.
Voice Coil Diameter:	3 in.
Thiele-Small Parameters—	
Free-Air Resonance (f _s):	26 Hz
Equivalent Volume Compliance (V _{AS}):	6.6 ft ³
Total Q (Q _{TS}):	0.27
Electrical Q (Q _{ES}):	0.32
Mechanical Q (Q _{MS}):	2.92
Reference Efficiency (η_0):	1.1%
D. C. Resistance (R _E):	6.4 ohms
Peak Linear Displacement (X _{MAX}):	0.25 in.
Peak Linear Volume Displacement (V _D):	19.6 in. ³
Effective Surface Area of Driver Diagram (S _D):	78.5 in. ²
Additional Parameters—	
Effective Piston Diameter:	10.0 in.
Voice Coil Inductance:	4.3 mH
BL Factor:	15.3
Magnet Type:	ferrite
Magnet Weight:	48 oz.
Flux Density:	9,000 gauss
Mounting Information—	
Baffle Opening Diameter:	11½" (28.26 cm)
Mounting Bolt Circle Diameter:	11⁵/₈" (29.52 cm)
Loudspeaker Depth (front mounting):	5" (12.7 cm)
Loudspeaker Depth (rear mounting):	5¾" (14.6 cm)
Weight:	18.5 lbs (8.4 kg)

*AES power rating measured E²/Z where E = 45V, Z = 8Ω, band-limited 40-400 Hz.

(AES Recommended Practice Specification of Loudspeaker Components Used in Professional Audio and Sound Reinforcement. See J. Audio Eng. Soc., Vol. 30, No. 3, 1982 March.)

**In 8124X Enclosure.



Figure 1. Frequency Response

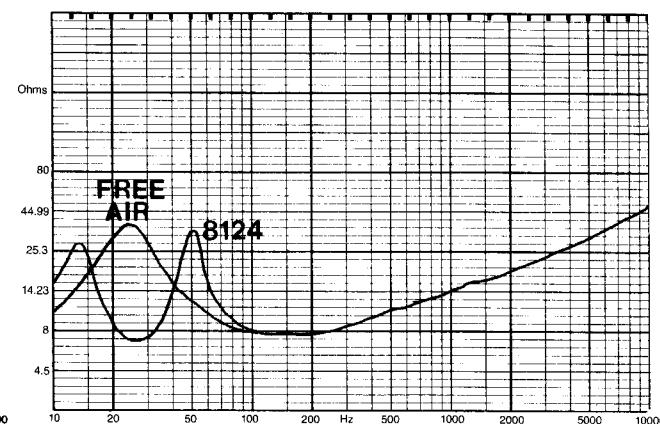
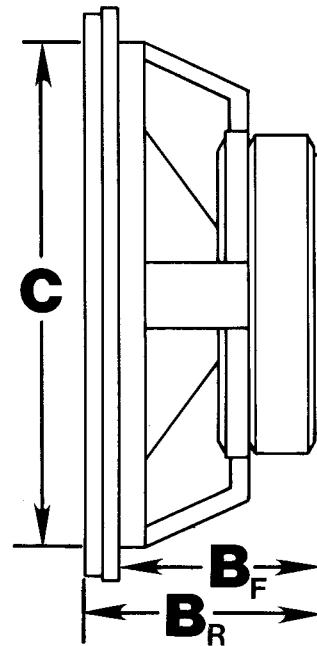
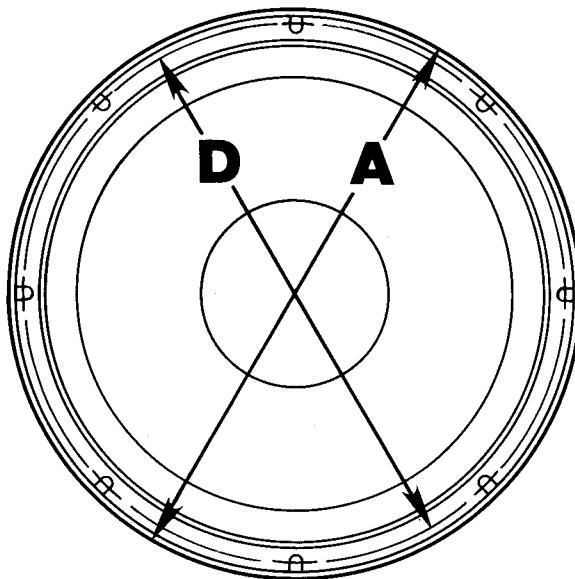


Figure 2. Impedance



LOUDSPEAKER MOUNTING DIMENSIONS

- (A) Loudspeaker Diameter: 12 $\frac{1}{4}$ " (31.12 cm)
- (B_F) Depth When Front Mounted: 5" (12.7 cm)
- (B_R) Depth When Rear Mounted: 5 $\frac{3}{4}$ " (14.6 cm)

- (C) Baffle Opening Diameter: 11 $\frac{1}{8}$ " (28.26 cm)
- (D) Bolt Circle Diameter: 11 $\frac{5}{8}$ " (29.52 cm)
- (E) Bolt Hole Slots: $\frac{1}{4}$ " (0.64 cm) x $1\frac{1}{2}$ " (0.87 cm); 8 slots spaced 45° apart.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The low frequency loudspeaker shall meet the following criteria. AES power rating, up to 250 watts of band-limited pink noise (40-400 Hz). Frequency response, uniform from 30-2000 Hz when mounted in a suitable enclosure. Pressure Sensitivity, 93 dB SPL when measured at 1 meter on axis from front edge of Altec Model 8124 Loudspeaker System (containing one model 3124 speaker) with one watt of band

limited pink noise from 100-1000 Hz (Ref.: 0.0002 dyne/cm²). Minimum impedance, 8 ohms. Nominal free-air LF cone resonance, 26 Hz. The voice coil shall be 3" in diameter, driven by a ferrite magnet having a flux density of 9,000 gauss. Dimensions, 12" diameter x 5" deep. Weight, 18.5 pounds.

The low frequency loudspeaker shall be the ALTEC LANSING Model 3124.



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